

WHAT IS CLAIMED IS:

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1. A data transmission apparatus for transmitting
data comprising a plurality of objects having
respective priority, the apparatus comprising:
5 means for selecting an error-correction coding
method for each of the plurality of objects based on
the priority of each of the plurality of objects;
means for error-correction coding of each of the
plurality of objects using the selected error-
correction coding method; and
10 means for multiplexing plurality of coded object
data and transmitting multiplexed data through a
transmission channel.

15 2. The data transmission apparatus according to
claim 1, wherein the error-correction coding method is
based on a plural-time transmission method and said
selecting means determines the number of times of
transmission in the plural-time transmission method
based on the priority.

20 3. The data transmission apparatus according to
claim 1, further comprising means for stopping at least
one of error-correction coding, multiplexing the coded
object data, and transmission of the multiplexed data
based on the priority.

25 4. The data transmission apparatus according to
claim 1, further comprising means for detecting a
traffic quality of the transmission channel, and

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wherein said selecting means selects an error-correction coding method based on the priority of each object and the traffic quality.

5 5. The data transmission apparatus according to claim 4, wherein the error-correction coding method is based on a plural-time transmission method and said selecting means determines the number of times of transmission in the plural-time transmission method based on the priority and the traffic quality.

10 10. The data transmission apparatus according to claim 4, further comprising means for stopping at least one of error-correction coding, multiplexing the coded object data, and transmission of the multiplexed data based on the priority and the traffic quality.

15 15. A data reception apparatus for receiving coded transmission data comprising a plurality of coded object data, each object having a priority, the apparatus comprising:

20 means for receiving and demultiplexing the coded transmission data into the plurality of coded object data;

 means for detecting the priority of each object; and

25 means for error-correction decoding of each of the coded object data based on the priority detected by said detecting means.

8. The data reception apparatus according to

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claim 7, wherein the coded transmission data is based
on a plural-time transmission coding method and said
error-correction decoding means determines a value of
the coded object data using a majority method based on
5 the priority.

9. The data reception apparatus according to
claim 7, further comprising means for stopping an

operation of said error-correction decoding means based
on the priority.

10. The data reception apparatus according to
claim 7, further comprising means for detecting a

traffic quality of a transmission channel for
transmitting the coded object data, and wherein said
error-correction decoding means error-correction

15 decodes the coded object data based on the priority and
the traffic quality detected by said detecting means.

11. The data reception apparatus according to
claim 10, wherein the coded transmission data is based

on a plural-time transmission coding method and said
error-correction decoding means determines a value of

20 the coded object data using a majority method based on
the priority and the traffic quality.

12. The data reception apparatus according to
claim 10, further comprising means for stopping an

25 operation of said error-correction decoding means based
on the priority and the traffic quality.

13. An object coding apparatus for transmitting

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data formed of a plurality of object data and scene description data, each object having a priority, the scene description data indicating the priority of each object and how the object data are synthesized, the apparatus comprising:

means for determining error-correction coding methods for the plurality of object data respectively based on the priority;

means for error-correction coding of each of the plurality of object data using the determined error-correction coding methods;

means for error-correction coding of the scene description data using a predetermined error-correction coding method; and

means for multiplexing coded scene description data and a plurality of coded object data and transmitting multiplexed data.

14. An object coding/decoding system comprising:

the object coding apparatus according to claim 13;

and

an object decoding apparatus comprising:

means for receiving and demultiplexing the multiplexed data from said object coding apparatus into the coded scene description data and the plurality of coded object data;

means for detecting the priority of each object from the coded scene description data;

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means for error-correction decoding of each of the plurality of coded object data using a decoding method based on the priority detected by said detecting means;

5 means for error-correction decoding of the coded scene description data using a predetermined decoding method; and

means for synthesizing plurality of decoded object data based on a decoded scene description.

10 15. A data transmission method for transmitting data comprising a plurality of objects having respective priority, the method comprising the following steps of:

15 selecting an error-correction coding method for each of the plurality of objects based on the priority of each of the plurality of objects;

error-correction coding of each of the plurality of objects using the selected error-correction coding method; and

20 multiplexing plurality of coded object data and transmitting multiplexed data through a transmission channel.

25 16. The data transmission method according to claim 15, wherein the error-correction coding method is based on a plural-time transmission method and said selecting step determines the number of times of transmission in the plural-time transmission method

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based on the priority.

17. The data transmission method according to
claim 15, further comprising a step of stopping at
least one of error-correction coding, multiplexing the
5 coded object data, and transmission of the multiplexed
data based on the priority.

18. The data transmission method according to
claim 15, further comprising a step of detecting a
traffic quality of the transmission channel, and
10 wherein said selecting step selects an error-correction
coding method based on the priority of each object and
the traffic quality.

19. The data transmission method according to
claim 18, wherein the error-correction coding method is
15 based on a plural-time transmission method and said
selecting step determines the number of times of
transmission in the plural-time transmission method
based on the priority and the traffic quality.

20. The data transmission method according to
claim 18, further comprising a step of stopping at
least one of error-correction coding, multiplexing the
coded object data, and transmission of the multiplexed
data based on the priority and the traffic quality.

21. A data reception method for receiving coded
25 transmission data comprising a plurality of coded
object data, each object having a priority, the method
comprising the following steps of:

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receiving and demultiplexing the coded transmission data into the plurality of coded object data;

5 detecting the priority of each object; and
error-correction decoding of each of the coded object data based on the priority detected by said detecting step.

10 22. The data reception method according to claim 21, wherein the coded transmission data is based on a plural-time transmission coding method and said error-correction decoding step determines a value of the coded object data using a majority method based on the priority.

15 23. The data reception method according to claim 21, further comprising a step of stopping an operation of said error-correction decoding step based on the priority.

20 24. The data reception method according to claim 21, further comprising a step of detecting a traffic quality of a transmission channel for transmitting the coded object data, and wherein said error-correction decoding step error-correction decodes the coded object data based on the priority and the traffic quality detected by said detecting step.

25 25. The data reception method according to claim 24, wherein the coded transmission data is based on a plural-time transmission coding method and said

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error-correction decoding step determines a value of the coded object data using a majority method based on the priority and the traffic quality.

26. The data reception method according to
5 claim 24, further comprising a step of stopping an operation of said error-correction decoding step based on the priority and the traffic quality.

27. An object coding method for transmitting data formed of a plurality of object data and scene
10 description data, each object having a priority, the scene description data indicating the priority of each object and how the object data are synthesized, the method comprising the following steps of:

15 determining error-correction coding methods for the plurality of object data respectively based on the priority;

error-correction coding of each of the plurality of object data using the determined error-correction coding methods;

20 error-correction coding of the scene description data using a predetermined error-correction coding method; and

25 multiplexing coded scene description data and a plurality of coded object data and transmitting multiplexed data.

28. An object coding/decoding method comprising the following steps of:

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determining error-correction coding methods for the plurality of object data respectively based on the priority;

5 error-correction coding of each of the plurality of object data using the determined error-correction coding methods;

error-correction coding of the scene description data using a predetermined error-correction coding method;

10 multiplexing coded scene description data and a plurality of coded object data and transmitting multiplexed data;

15 receiving and demultiplexing the multiplexed data from said object coding apparatus into the coded scene description data and the plurality of coded object data;

detecting the priority of each object from the coded scene description data;

20 error-correction decoding of each of the plurality of coded object data using a decoding method based on the priority detected by said detecting step;

error-correction decoding of the coded scene description data using a predetermined decoding method; and

25 synthesizing plurality of decoded object data based on a decoded scene description.

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